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EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,899

Applicant(s)

SLETTNES, TOR

Examiner

Thanh X Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-44, 48-51, 54-59 and 62-65 is/are allowed.
- 6) ☒ Claim(s) 1, 5-10, 13-21, 26 and 27 is/are rejected.
- 7) ☒ Claim(s) 2-4, 11, 12, 22-25, 28-30, 45-47, 52, 53, 60 and 61 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to amendments and remarks filed March 11, 2003. Claims 1-65 are currently pending.

Drawings

1. Figures 9 and 10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 5, 10, 14-17, 19, 21, 26 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamensky (U.S. Patent 5,072,382).

Regarding claims 1, 5, 10, 14 and 15, Kamensky discloses (see Figure 1) a data collection method for scanning a scan window comprising one or more channels comprising the steps of: detecting an integrated signal across the scan window (sample 28) comprising one or more channels (see Figure 4, strips; and column 10, lines 40-55) using an integrating detector (20, 22, 24 or 26); and calculating a velocity-normalized integrated signal as a function of a scan velocity and the integrated signal (see column

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3, lines 7-11 and column 12, lines 5-25). Kamentsky further discloses (see Figure 4 and column 10, lines 40-55) the channels (strips) are disposed in a linear array. In addition, Kamentsky discloses (see Figure 1 and column 10, lines 40-55) using a stepper motor (46, 47) to cause a relative motion between the scan window (sample) and the integrating device (20, 24 or 26). Kamentsky also discloses (see Figure 6) detection of a fluorescence emission and wherein the fluorescence emission is stimulated by a laser (see column 6, line 48).

Regarding claims 16, 26, 27, Kamentsky discloses (see Figure 1) an apparatus for scanning a plurality of channels or one or more channels comprising: means for detecting (20, 22, 24 or 26) an integrated signal across a scan window (entire sample 28) comprising a plurality of channels or one or more channels (strips) using an integrating detector; and computer means (see Figure 2) for receiving the integrated signal and determining a scan velocity and for calculating a velocity-normalized integrated signal as a function of the scan velocity and the integrated signal (see column 12, lines 5-25).

Regarding claims 17 and 19, Kamentsky discloses (see Figure 1) an apparatus for scanning a scan window having one or more channels comprising: an integrating detector (20, 24 or 26); a scanner (18) for effecting a scanning of the integrating detector relative to the scan window (entire sample 28) comprising one or more channels (strips); wherein an integrated signal is detected by scanning the integrating detector relative to the scan window and a computer (see Figure 2) for receiving the integrated signal and for determining a scan velocity and for calculating a velocity-

normalized integrated signal (see column 12, lines 5-25). Kamentsky further discloses (see Figure 1) the scanner comprises a stepper motor (46, 47).

Regarding claim 21, Kamentsky discloses (see Figures 1-3) method steps comprising: detecting an integrated signal across a scan window (entire sample 28) comprising one or more channels (strips) using an integrating detector (20, 22, 24 or 26); and calculating a velocity-normalized integrated signal as a function of a scan velocity and the integrated signal (see column 12, lines 5-25). The method steps are inherently provided in a program storage device as the steps are automated and carried out by a computer (see Figure 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-9, 13, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamentsky.

Regarding claims 6-9 and 20, Kamentsky disclose (see column 1 and 2) the device and method applied to DNA, RNA or other biological specimens. Kamentsky does not specifically disclose channels are electrophoresis lanes or a gel as claimed. However, it is notoriously well known in the art that electrophoresis systems comprise of a similar system and method. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide electrophoresis channels or a gel

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in the apparatus and method of Kamentsky to improve detection through velocity normalization. Further, the specific type and density of the lanes are a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide such a density in the apparatus of Kamentsky to obtain a desired result.

Regarding claims 13 and 18, Kamentsky disclose the claimed invention as set forth above. Kamentsky does not specifically disclose a CCD or a photodiode array. However, CCDs and photodiode arrays are notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a CCD or a photodiode array in the apparatus and method of Kamentsky to provide a more improved and complete detection.

Reissue Applications

6. The original patent, or a statement as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. See 37 CFR 1.178.

Allowable Subject Matter

7. Claims 2-4, 11, 12, 22-25, 28-30, 45-47, 52, 53, 60 and 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 31-44, 48-51, 54-59, 62-65 are allowed over the prior art of record.

9. The following is a statement of reasons for the indication of allowable subject matter: an apparatus and method for scanning a scan window as claimed, more specifically in combination with: determining an integration time for the integrated signal and dividing the integrated signal by the integration time is not disclosed or made obvious by the prior art of record.

Response to Arguments

10. Applicant's arguments with respect to claims 2-4, 11, 12, 22-25 are now moot since the rejection of those claims are withdrawn.

11. Applicant's arguments filed March 11, 2003 have been fully considered but they are not persuasive.

Regarding claims 1, 5, 10, 14-17, 19, 21, 26 and 27, Applicant asserts that the velocity normalization is not a function of scan velocity as claimed. Examiner further clarifies that Kamentsky discloses (see column 3, lines 7-11) the velocity normalization is a function of scan velocity ("proportional to the velocity at which the beam is scanned"). Thus, Kamentsky does disclose the claimed invention.

Applicant further asserts that Kamentsky does not disclose the channels as claimed. However, nothing in the claim language distinguishes the channels of Kamentsky and the claimed channels.

Regarding claims 6-9 and 20, Applicant asserts that it would not have been obvious to provide electrophoresis lanes in the apparatus and method of Kamentsky. However, it is well known that electrophoresis systems and methods operate in a similar manner (scanning of channels or lanes). Further, since Kamentsky already discloses

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the apparatus and method, it would have been obvious to simply apply the system and method to other types of channels (electrophoresis lanes) to provide similar improved results as taught.

Thus, as set forth above, this rejection is proper.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
March 26, 2003


Que T. Le
Primary Examiner